

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2330096WOFRI/JLG/AHA	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/003494	International filing date (<i>day/month/year</i>) 02.04.2004	Priority date (<i>day/month/year</i>) 21.11.2003
International Patent Classification (IPC) or national classification and IPC C22C21/00, B32B15/01		
Applicant KS GLEITLAGER GMBH		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

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Box No. I

Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-6 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 1-12 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-12</u>	YES
	Claims	<u></u>	NO
Inventive step (IS)	Claims	<u>1-12</u>	YES
	Claims	<u></u>	NO
Industrial applicability (IA)	Claims	<u>1-12</u>	YES
	Claims	<u></u>	NO
2. Citations and explanations (Rule 70.7)			
This report makes reference to the following documents:			
D1: DE 10056579			
D2: DE 4328921			
1.1 Document D2 discloses (the references in parentheses are to that document):			
a plain bearing element comprising a supporting steel layer, a bearing alloy layer and an uppermost layer formed by sputtering, the uppermost layer comprising 10-80% Sn, 0.1-5% Cu, 0.05-3% Sb, the remainder being aluminium and impurities resulting from melting conditions.			
The uppermost layer has a hardness ranging from 55 to 110 DPH [see table 1].			
1.2 The subject matter of claim 1 differs from the known document D2 by an increased hardness of the bearing coating. This leads to enhanced wear resistance in operation under high loads.			

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The technical problem thus consists in producing a composite plain bearing material with a sputtered AlSnCu bearing coating with the highest possible wear resistance and at the same time sufficient ductility, i.e. sufficient resistance to corrosive wear.

1.3 It is known from the prior art to improve wear resistance of bearing coatings by increasing their hardness, but at the detriment of the embeddability of foreign particles, i.e. load-bearing capacity.

None of the available documents suggests the proposed solution, which consists in increasing the copper and tin contents and at the same time generating a highly resistant layer.

Independent claims 1 and 12 are thus novel and inventive.

2. Claims 2-11 are dependent on claim 1 and thus also meet the PCT novelty and inventive step requirements.